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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,066	09/29/2003	Grzegorz Stachowiak	3691-587	4713
23117	7590	04/19/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			BLACKWELL, GWENDOLYN A	
			ART UNIT	PAPER NUMBER

1775

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,066

Applicant(s)

STACHOWIAK, GRZEGORZ

Examiner

Gwendolyn Blackwell

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13,15,17-20 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13,15,17-20 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Based upon the Appeal Brief submitted February 8, 2006, prosecution has been reopened with the finality of the rejection of the last Office action withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-5, 9-13, 15, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 5,543,229, Ohsaki et al.

Regarding claims 1, 3-5, 13, 15, and 17-18

Ohsaki et al disclose a heat treated coated glass having a layer structure comprised of, (Example 2, lines 20-29), meeting the limitations of claims 1, 3-5, 13, 15, and 17-18:

Glass/tin oxide/silicon nitride/chromium nitride(IR reflecting layer)/silicon nitride (dielectric layer)/tin oxide (dielectric layer).

Regarding claim 9-12

Example 2, the layer structure set forth above, has a visible light transmittance of 48.57%, (column 6, line 55), meeting the limitation of claims 9-10.

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies Applicant's claimed layer structure, the claimed physical properties are

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present in the prior art. Absent an objective showing to the contrary, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art of record, meeting the limitations of claims 11-12.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 8-18, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication no. 2002/0064662, Lingle '662, in view of United States Patent no. 5,688,585, Lingle '585.

Regarding claims 1, 15, 18, and 24

Lingle '662 disclose a heat treatable low emissivity coated substrate having a layer system comprised of the following, (page 2, sections 0027-0037):

at least one dielectric layer/a 1st contact layer/a 1st IR reflecting layer/a 2nd contact layer/at least one additional dielectric layer/a 3rd contact layer/a 2nd IR reflecting layer/a 4th contact layer/at least one additional dielectric layer.

The first dielectric layer can be tin oxide with a layer of silicon nitride formed thereon, (page 3, sections 0073-0074). Silver, gold, or any other suitable IR reflecting material is used for the IR reflecting layer, (page 4, section 0076). Lingle '662 does not specifically disclose the other suitable IR reflecting materials that can be used for the IR reflecting layer.

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Lingle '585 disclose a heat treatable coated glass substrate comprised of three layer having the following structure, (Lingle '585, column 9, lines 45-50):



The layer structure has a visible transmission of 1-80%, an emissivity ranging from about 0.10-0.75, and a sheet resistance of about 20-500, (Lingle '585, column 6, lines 15-35). The silicon nitride film can contain up to 6-wt% of aluminum, (Lingle '585, column 9, lines 50-53). The layer system does not include the use of silver, (Lingle '585, column 5, lines 45-46).

Lingle '662 and Lingle '585 disclose analogous inventions related to coated substrates having low emissivity properties. It would have been obvious to one skilled in the art at the time of invention to modify the IR reflective layer of Lingle '662 with the nickel/NiCr metal layer of Lingle '585 as silver and nickel/NiCr are considered functional equivalents that would be expected to exhibit the same or substantially the same physical characteristics as a silver IR layer. The addition of the tin oxide undercoat of Lingle '662 to enhance the antireflection properties of the film, (Lingle '662, page 3, section 0073).

Regarding claims 2-3, 8, and 17

Table 1 demonstrates that the first and second layer can have a combined thickness of 0-800 Å, (Lingle '662, page 5, section 0084). Silicon nitride is used as a layer over the IR reflecting layer, (Lingle '662, page 4, section 0081). Aluminum in the range of 3-20 wt % can be added to the silicon nitride layer, (Lingle '662, page 3, section 0074).

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art

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exemplifies the applicant's claimed layer structure, the claimed physical property relating to the coated article having a blue glass side reflective color would be expected to be present.

Regarding claims 6, 9, 11-12 and 20

The coated substrate can be used in an IG window unit or as a vehicle windshield, (Lingle '662, page 1, section 0013). The coated substrate has a visible transmittance of at least 70%, (Lingle '662, page 1, section 0007), with a sheet resistance of no greater than 10.0, (Lingle '662, page 1, section 0015).

Claim Rejections - 35 USC § 103

6. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 5,543,229, Ohsaki et al in view of United States Patent no. 6,352,754, Frost et al.

Regarding claims 1 and 15

Ohsaki et al disclose a heat treated coated glass having a layer structure comprised of, (Example 2, lines 20-29):

Glass/tin oxide/silicon nitride/chromium nitride(IR reflecting layer)/silicon nitride (dielectric layer)/tin oxide (dielectric layer).

Ohsaki et al does not specifically disclose that IR layer can be NiCr, Nb, or NbZr.

Frost et al disclose laminated glass sheets comprise of a multilayered structure having an infrared reflecting layer comprised of chromium, niobium, an alloy of nickel-chromium, (column 4, lines 57-65).

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Ohsaki et al and Frost et al disclose analogous inventions related to the use of infrared reflective layers to control thermal properties in glazing units. It would have been obvious to one skilled in the art at the time of invention to modify the infrared reflective layer with the infrared reflective layers Frost et al, as Frost et al teaches that chromium is the functional equivalent of niobium and nickel-chromium, (Frost, column 4, lines 57-63).

7. Claims 7, 19, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 5,543,229, Ohsaki et al as applied to claims 1 and 15 above, and further in view of the article entitled *Thermally durable sputter-deposited tin oxide films and their applications*, Ebisawa et al.

Ohsaki et al disclose the limitations of claims 1 and 15 above. Ohsaki et al do not specifically disclose that the tin oxide layer on the substrate also contains nitrogen.

Ebisawa et al disclose that nitrogen can be added to a tin oxide (SnON) film that is part of an antireflective coating, (page 308, 2nd paragraph).

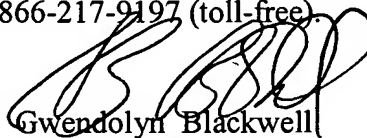
Ohsaki et al and Ebisawa et al disclose that tin oxide can be part of solar control coatings. It would have been obvious to one skilled in the art at the time of invention to modify the tin oxide film of Ohsaki et al through the addition of nitrogen in order to protect the tin oxide film from bending and forming film cracks that could occur during heat treatment, (Ebisawa et al, page 308, 2nd paragraph).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Gwendolyn Blackwell
Examiner
Art Unit 1775

gab